

Work Order ID 56134

February 10, 2010 2:55:54 PM



Page 1

Item ID: D205-634-041

Accept



Setup Start



Revision ID:

Item Name: Replacement Skidtube

Stop



Start Date: 2/10/10 Start Qty: 1.00



Cust Item ID:

Required Date: 2/26/10 Req'd Qty: 1.00



Customer:

Reference:

Approvals: Process Plan:

DP

Date: 10-2-10

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop



Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Draw
Number

Draw
Rev.

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

Draw Nbr

Revision Nbr

D2580

Rev D

100



DOCUMENT CONTROL

0.00

DC

Memo

0.00

Document Control

Photocopy D205-634 bluefile & type labels per PPP D205-634-041 CHG002

N/A

110



BENDING MACHINE - SKIDTUBES

0.00

CNC Bend 1

Memo

0.00

CNC Delta 100 Bender

1-Bend as per program D2580.C on CNC Bender and Folio FT009

2-Cut tubes as per Dwg. D2580

> DP

10-2-18

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 56134

February 10, 2010 2:55:54 PM



Page 2

Item ID: D205-634-041
Revision ID:
Item Name: Replacement Skidtube

Accept



Setup Start
Stop



Start Date: 2/10/10 Start Qty: 1.00
Required Date: 2/26/10 Req'd Qty: 1.00



Cust Item ID:
Customer:

Reference:

Approvals: Process Plan: Date: Tooling: Date:
QC: Date: SPC (Y/N): Date:

Run Start
Stop



Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Draw
Number

Draw
Rev.

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

120



Skidtubes

Skidtubes

Memo

1- Deburr ends

2- C'sink holes as per dwg without cutting fluid

3- Prepare tube for welding, remove alodine as required.

4- Scribe batch number insied aft end of tube.

0.00

0.00



MS 10-02-22

130



QC

Quality Control

QC5- Inspect part completeness to step on W/O

Memo

0.00

0.00



PC 10-02-23

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 56134

February 10, 2010 2:55:54 PM



Page 3

Item ID: D205-634-041
Revision ID:
Item Name: Replacement Skidtube

Accept



Setup Start



Stop



Start Date: 2/10/10 Start Qty: 1.00



Required Date: 2/26/10 Req'd Qty: 1.00



Cust Item ID:

Customer:

Reference:

Approvals: Process Plan: Date: Tooling: Date:
QC: Date: SPC (Y/N): Date:

Run Start



Stop



Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Draw
Number

Draw
Rev.

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

140



Skidtubes

Skidtubes

0.00

Memo

0.00

1-Weld step D2576 as per Dwg. D2580 and QSI 004

A/R Aluminum Rod

m113207

BE 10/02/23

2-Prep per QSI 005 and weld crossbolt spacers D2579 as per Dwg. D2580, QSI 004.

For D2579 spacers, weld one side, pass 3/8" drill, weld other side, pass 3/8" drill

A/R Aluminum Rod

m113207

BE 10/02/23

3-Grind welds as per Dwg D2580 Grind flush ridge made from bending

4-Drill holes for wearplates using DT 8217 & DT8937 Open holes to 19/64", adjust stopper not to hit web. Debur

5-Counterbore crossbolt spacers to 7/16" ID x 1.0" deep as per Dwg D2580. Debur holes

6-Drill pilot holes for aft cap using DT 8215 Open holes to 0.208". Debur

7-Drill pilot holes for Tow ring using DT8091, open to .640" and Debur

BE 10/02/24

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 56134

February 10, 2010 2:55:54 PM



Page 4

Item ID: D205-634-041
Revision ID:
Item Name: Replacement Skidtube

Accept



Setup Start



Stop



Start Date: 2/10/10 Start Qty: 1.00
Required Date: 2/26/10 Req'd Qty: 1.00



Cust Item ID:
Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start



Stop



Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Draw
Number

Draw
Rev.

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

150



QC

Quality Control

QC10- Inspect visual per QSI004- ground welds

0.00

S. Wolke/zy

Memo

0.00

160



QC

Quality Control

QC5- Inspect part completeness to step on W/O

0.00

S. Wolke/zy

Memo

0.00

⑩

170



HandFinish

Hand Finishing

Pressure Wash per QSI005 4.3

0.00

=> H/ 10/03/09

+Recalibrate AS per 09-043
PAIR

Memo

0.00

⑪

9

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 56134

February 10, 2010 2:55:54 PM



Page 5

Item ID: D205-634-041
Revision ID:
Item Name: Replacement Skidtube

Accept



Setup Start



Stop



Start Date: 2/10/10 Start Qty: 1.00
Required Date: 2/26/10 Req'd Qty: 1.00



Cust Item ID:
Customer:

Reference:

Approvals: Process Plan: Date: Tooling: Date:
QC: Date: SPC (Y/N): Date:

Run Start



Stop



Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Draw
Number

Draw
Rev.

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

180



Powdercoat

Powder Coating

White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum

M113170

0.00

0.00

=> 4/10/03/09

Memo

START TIME:

OVEN TEMPERATURE:

FINISH TIME:

1:00pm
320°
1:30pm

VI

X

190



QC

Quality Control

QC3- Inspect Part Finish

0.00

0.00

BR 10-3-10

Memo

D

X

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 56134

February 10, 2010 2:55:54 PM



Page 6

Item ID: D205-634-041

Accept



Setup Start



Revision ID:

Stop



Item Name: Replacement Skidtube

Start Date: 2/10/10 Start Qty: 1.00



Cust Item ID:

Required Date: 2/26/10 Req'd Qty: 1.00



Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run HoursDraw
NumberDraw
Rev.Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

200

0.00



HandFinish

Memo

0.00

Hand Finishing

1-Install inserts & wearplates & Gaskets as per Dwg. D2580. Use a drop of Sikaflex on insert holes before installing wearplates
A/R ☐ ☐ ☐ Sikaflex-291 ☐ 112345
Sikaflex expire date: 10/08

2-Coat D2594-3 O' rings with Petroleum Jelly and install on D2594-1 plugs as per Dwg D2580

3-Inspect for foreign object per QSI 024

4-Install 2855 Aft Cap as per Dwg D2580 and seal Fwd Step & Aft Cap with Sikaflex. Clean excess adhesive
A/R ☐ ☐ ☐ Sikaflex-291 ☐ 112345
Sikaflex expire date: 10/08

5-Wing Walk as per Dwg D2580 and QSI 005 4.4
Batch: 113462

Bl 10-3-10

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 56134

February 10, 2010 2:55:54 PM



Page 7

Item ID: D205-634-041
Revision ID:
Item Name: Replacement Skidtube

Accept



Setup Start



Stop



Start Date: 2/10/10 Start Qty: 1.00
Required Date: 2/26/10 Req'd Qty: 1.00



Cust Item ID:
Customer:

Reference:

Approvals: Process Plan: Date: Tooling: Date:
QC: Date: SPC (Y/N): Date:

Run Start



Stop



Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Draw
Number

Draw
Rev.

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

210



QC

Quality Control

QC5- Inspect part completeness to step on W/O

0.00

5 w/ly/h

Memo

0.00

Inspect Aft Cap, Fwd Step and Wing Walk of work to Current Step Inspect for
Foreign objects per QSI 024

40

220



Packaging

Packaging

Packaging

0.00

Memo

0.00

Identify and pack for shipping as per PPPD205-634-041
Location: *PPP 56400*
PPP Rev:

Perp/11 @

230



QC

Quality Control

QC21- Final Inspection - Work Order Release

0.00

Memo

0.00

*10/03/10**mf**10-3-11*

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

February 10, 2010 2:55:59 PM

Page 1

Work Order ID: 56134



Parent Item: D205-634-041



Parent Item Name: Replacement Skidtube

Start Date: 2/10/10

Required Date: 2/26/10

Comments: IPP Rev:N 02.08.28 FP was QC5 in Step 27; Added QC5 to Step 30 KJ
 IPP Rev. O 06.02.28 Added paperwork EC
 IPP Rev:P 07-07-09 SS Wearplates & Gaskets JLM

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/	Replacement	Mfg/	Bin	Primary	Last	Route	Unit of	Qty on	Remaining	Qty	Date	Status
D2580-1		Manufactured	No			110	Each	5.0000	1.0000			



205 Skidtube bent detail

Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

LG

54541

54697

54721

5

2

2

1

140

Each

141.0000

1.0000

DP 10-2-18

D2576-3



Step (maching detail)

Manufactured

No

Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

ST

46661

52215

141

94

47

1 BE 10/2/23

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Page 2

February 10, 2010 2:55:59 PM

Work Order ID: 56134



Parent Item: D205-634-041



Parent Item Name: Replacement Skidtube

Start Date: 2/10/10

Required Date: 2/26/10

Comments: IPP Rev:N 02.08.28 FP was QC5 in Step 27; Added QC5 to Step 30 KJ
 IPP Rev: O 06.02.28 Added paperwork EC
 IPP Rev: P 07-07-09 SS Wearplates & Gaskets JLM

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/	Replacement	Mfg/	Bin	Primary	Last	Route	Unit of	Qty on	Remaining	Qty	Date	Status
D2579		Manufactured	No			140	Each	147.0000	20.0000			



Crossbolt Spacer



Warehouse	Location	Loc Qty	Loc Code
Main Warehouse	LG	25	
	51525	4	
	53780	3	
	54543	18	
Main Warehouse	ST	122	
	43988	4	
	46434	4	
	46956	2	
	47797	9	
	48272	2	
	51314	71	
	51315	30	

256145

20

BE 10/02/23

February 10, 2010 2:55:59 PM

Shop Packet Print

Page 2

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

February 10, 2010 2:55:59 PM

Page 3

Work Order ID: 56134



Parent Item: D205-634-041



Parent Item Name: Replacement Skidtube

Start Date: 2/10/10

Required Date: 2/26/10

Comments: IPP Rev:N 02.08.28 FP was QC5 in Step 27; Added QC5 to Step 30 KJ
 IPP Rev. O 06.02.28 Added paperwork EC
 IPP Rev:P 07-07-09 SS Wearplates & Gaskets JLM

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ D2855	Replacement	Mfg/ Manufactured	Bin No	Primary	Last	Route 200	Unit of Each	Qty on 151.0000	Remaining 1.0000	Qty	Date	Status
-----------------------------	-------------	----------------------	-----------	---------	------	--------------	-----------------	--------------------	---------------------	-----	------	--------



Cap

Warehouse Location	Loc Qty	Loc Code
Main Warehouse		
ST026	151	
50513	1	
50770	1	
51539	39	
53791 ✓	110	

AN3-5A

Purchased

No

200

Each

1,773.000 2.0000



Bolt

Warehouse Location	Loc Qty	Loc Code
Main Warehouse		
ST	1773	
100188	188	
105057 ✓	1585	

1 BR 10-3-10

2 BR 10-3-10

February 10, 2010 2:55:59 PM

Shop Packet Print

Page 3

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Page 4

February 10, 2010 2:55:59 PM

Work Order ID: 56134



Parent Item: D205-634-041



Parent Item Name: Replacement Skidtube

Start Date: 2/10/10

Required Date: 2/26/10

Comments: IPP Rev:N 02.08.28 FP was QC5 in Step 27; Added QC5 to Step 30 KJ
 IPP Rev. O 06.02.28 Added paperwork EC
 IPP Rev:P 07-07-09 SS Wearplates & Gaskets JLM

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/	Replacement	Mfg/	Bin	Primary	Last	Route	Unit of	Qty on	Remaining	Qty	Date	Status
AN960JD10L		Purchased	No			200	Each	3,459.000	2.0000			



Washer



Warehouse Loc Qty Loc Code

Location

Main Warehouse

ST 3459

101291 16

105793 49

110985 ✓ 3394

ALS7-1032-130

Purchased

No

200

Each

986.0000 50.0000



Insert



Warehouse Loc Qty Loc Code

Location

Main Warehouse

ST 110511 986

108606 52

111529 130

111779 34

112772 11

113238 759

ALS4-1032-130

2 BR 10-3-10

50. BR 10-3-10.

February 10, 2010 2:55:59 PM

Shop Packet Print

Page 4

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Page 5

February 10, 2010 2:55:59 PM

Work Order ID: 56134



Parent Item: D205-634-041



Parent Item Name: Replacement Skidtube

Start Date: 2/10/10

Required Date: 2/26/10

Comments: IPP Rev:N 02.08.28 FP was QC5 in Step 27; Added QC5 to Step 30 KJ
 IPP Rev. O 06.02.28 Added paperwork EC
 IPP Rev:P 07-07-09 SS Wearplates & Gaskets JLM

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/	Replacement	Mfg/	Bin	Primary	Last	Route	Unit of	Qty on	Remaining	Qty	Date	Status
AN3C4A		Purchased	No			200	Each	1,263.000	50.0000			



BOLT

Warehouse	Loc Qty	Loc Code
Location		
Main Warehouse		
ST 114103	1263	
112314	13	
112720	12	
112724	3	
112829	1	
112991	2	
113121	64	
113226	344	
113422	124	
113644	500	
113749	200	

50. Br 10-3-10

AN960C10L

Purchased

No

200

Each

388.0000 50.0000



washer

Warehouse	Loc Qty	Loc Code
Location		
OFFSHORE		
FG 113691	100	
103585	100	
Main Warehouse		
ST	288	
112116	128	
112612	160	

50. Br 10-3-10

NAS1149C0332R

February 10, 2010 2:55:59 PM

Shop Packet Print

Page 5

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

February 10, 2010 2:55:59 PM

Page 6

Work Order ID: 56134



Parent Item: D205-634-041



Parent Item Name: Replacement Skidtube

Start Date: 2/10/10

Required Date: 2/26/10

Comments: IPP Rev:N 02.08.28 FP was QC5 in Step 27; Added QC5 to Step 30 KJ
 IPP Rev: O 06.02.28 Added paperwork EC
 IPP Rev: P 07-07-09 SS Wearplates & Gaskets JLM

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/	Replacement	Mfg/	Bin	Primary	Last	Route	Unit of	Qty on	Remaining	Qty	Date	Status
D3566-13		Manufactured	No			200	Each	83.0000	1.0000			



Gasket

Warehouse	Location	Loc Qty	Loc Code
Main Warehouse	FP	81	
	53461 ✓	81	
Main Warehouse	ST	2	
	45717	1	
	50265	1	

1 PR 10-3-10

D3566-5



Gasket

Manufactured	No			200	Each	34.0000	1.0000
--------------	----	--	--	-----	------	---------	--------

Warehouse	Location	Loc Qty	Loc Code
Main Warehouse	FP19	30	
	55026 ✓	18	
	55335	12	
Main Warehouse	ST	4	
	36113	1	
	46186	1	
	47318	1	
	51260	1	

1 PR 10-5-10

February 10, 2010 2:55:59 PM

Shop Packet Print

Page 6

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

February 10, 2010 2:55:59 PM

Page 7

Work Order ID: 56134



Parent Item: D205-634-041



Parent Item Name: Replacement Skidtube

Start Date: 2/10/10

Required Date: 2/26/10

Comments: IPP Rev:N 02.08.28 FP was QC5 in Step 27; Added QC5 to Step 30 KJ
 IPP Rev. O 06.02.28 Added paperwork EC
 IPP Rev:P 07-07-09 SS Wearplates & Gaskets JLM

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/	Replacement	Mfg/	Bin	Primary	Last	Route	Unit of	Qty on	Remaining	Qty	Date	Status
D3566-1		Manufactured	No			200	Each	39.0000	2.0000			
Gasket												

Warehouse	Loc Qty	Loc Code
<u>Location</u>		
Main Warehouse		
FP 56532	34	
52512	3	
54480	1	
55011	3	
55320	27	
Main Warehouse		
ST	5	
46349	1	
51218	1	
51259	3	

D3564-11



Manufactured No

200

Each

5.0000

1.0000



Wearshoe

Warehouse	Loc Qty	Loc Code
<u>Location</u>		
Main Warehouse		
FP19 55332	3	
52125	3	
Main Warehouse		
ST	2	
45823	1	
50112	1	

February 10, 2010 2:55:59 PM

Shop Packet Print

Page 7

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

February 10, 2010 2:55:59 PM

Page 8

Work Order ID: 56134



Parent Item: D205-634-041



Parent Item Name: Replacement Skidtube

Start Date: 2/10/10

Required Date: 2/26/10

Comments: IPP Rev:N 02.08.28 FP was QC5 in Step 27; Added QC5 to Step 30 KJ
 IPP Rev: O 06.02.28 Added paperwork EC
 IPP Rev: P 07-07-09 SS Wearplates & Gaskets JLM

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/	Replacement	Mfg/	Bin	Primary	Last	Route	Unit of	Qty on	Remaining	Qty	Date	Status
D3564-13		Manufactured	No			200	Each	23.0000	1.0000			
Wearshoe												

Warehouse Loc Qty Loc Code

Location

Main Warehouse

FP17 **58285**
 51611

11

11

Main Warehouse

ST

12

45409

2

46495

10

D3564-9

Manufactured No

200

Each

14.0000

1.0000



Wearshoe

Warehouse Loc Qty Loc Code

Location

Main Warehouse

FP19

12

55025 ✓

12

Main Warehouse

ST

2

44659

1

45825

1

February 10, 2010 2:55:59 PM

Shop Packet Print

Page 8

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Page 9

February 10, 2010 2:55:59 PM

Work Order ID: 56134



Parent Item: D205-634-041



Parent Item Name: Replacement Skidtube

Start Date: 2/10/10

Required Date: 2/26/10

Comments: IPP Rev:N 02.08.28 FP was QC5 in Step 27; Added QC5 to Step 30 KJ
 IPP Rev. O 06.02.28 Added paperwork EC
 IPP Rev:P 07-07-09 SS Wearplates & Gaskets JLM

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/	Replacement	Mfg/	Bin	Primary	Last	Route	Unit of	Qty on	Remaining	Qty	Date	Status
D3564-5		Manufactured	No			200	Each	44.0000	1.0000			



Wearshoe

Warehouse	Loc Qty	Loc Code
<u>Location</u>		
OFFSHORE		
FG 34772	2	
34806	2	
Main Warehouse		
FP19	40	
51925	1	
54772 ✓	13	
55024	12	
55333	14	
Main Warehouse		
ST	2	
45824	1	
47433	1	

1 BR 10-3-10.

February 10, 2010 2:55:59 PM

Shop Packet Print

Page 9

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

February 10, 2010 2:55:59 PM

Page 10

Work Order ID: 56134



Parent Item: D205-634-041



Parent Item Name: Replacement Skidtube

Start Date: 2/10/10

Required Date: 2/26/10

Comments: IPP Rev:N 02.08.28 FP was QC5 in Step 27; Added QC5 to Step 30 KJ
 IPP Rev: O 06.02.28 Added paperwork EC
 IPP Rev: P 07-07-09 SS Wearplates & Gaskets JLM

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/	Replacement	Mfg/	Bin	Primary	Last	Route	Unit of	Qty on	Remaining	Qty	Date	Status
D2594-3		Manufactured	No			200	Each	668.0000	16.0000			



O-Ring, 205 Skidtube



Warehouse	Loc Qty	Loc Code
<u>Location</u>		
Main Warehouse		
FP	527	
51613	27	
55546 ✓	500	
Main Warehouse		
ST	141	
52562	141	

16 BR 10-3-10.

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Page 11

February 10, 2010 2:55:59 PM

Work Order ID: 56134



Parent Item: D205-634-041



Parent Item Name: Replacement Skidtube

Start Date: 2/10/10

Required Date: 2/26/10

Comments: IPP Rev:N 02.08.28 FP was QC5 in Step 27; Added QC5 to Step 30 KJ
 IPP Rev: O 06.02.28 Added paperwork EC
 IPP Rev: P 07-07-09 SS Wearplates & Gaskets JLM

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/	Replacement	Mfg/	Bin	Primary	Last	Route	Unit of	Qty on	Remaining	Qty	Date	Status
D2594-1		Manufactured	No			200	Each	705.0000	16.0000			



Plug, 205 Skidtube



Warehouse	Loc Qty	Loc Code
<u>Location</u>		
Main Warehouse		
FP	577	
54008	1	
54643	15	
55002 ✓	561	
Main Warehouse		
ST	128	
42221	16	
42807	92	
43884	3	
46435	2	
51527	9	
51757	6	

16.0000 10-3-10

February 10, 2010 2:55:59 PM

Shop Packet Print

Page 11

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

DART

DESIGN <i>[Signature]</i>	DRAWN BY <i>[Signature]</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>[Signature]</i>	APPROVED <i>[Signature]</i>	DRAWING NO. D2580	REV. D SHEET 1 OF 3
DATE 07.02.27		TITLE 205 SKIDTUBE ASSEMBLY	SCALE NTS
A	96.09.16	NEW ISSUE	
B	96.12.02	AS MANUFACTURED	
C	98.08.26	REDRAWN, INCLUDED DEO 9094/9097	
D	07.02.27	CHANGE TO SS WEARPLATES AND GASKETS, INCLUDE DEO 9124/9183	

RELEASED
07 06 28 #

QTY -041	QTY -045	Part Number	Description
X		D2580-041	SKIDTUBE ASSEMBLY
	X	D2580-045	SKIDTUBE ASSEMBLY
1	1	D2500-1-190	EXTRUSION
1	1	D2576-3	STEP
20	24	D2579	CROSS BOLT SPACER
16	16	D2594-1	PLUG
16	16	D2594-3	O-RING
1	1	D2596	205 WEB
1	1	D2855	AFT CAP
1	1	D3564-5	WEARSHOE
1	1	D3564-9	WEARSHOE
1	1	D3564-11	WEARSHOE
1	1	D3564-13	WEARSHOE
2	2	D3566-1	GASKET
1	1	D3566-5	GASKET
1	1	D3566-13	GASKET
50	50	ALS7-1032-130 or AKS7-1032-130 or AKS4-1032-130 or AELS-1032-130	INSERT
50	50	AN3C4A	BOLT
2	2	AN3-5A	BOLT
50	50	AN960C10L	WASHER
2	2	AN960JD10L	WASHER

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 56139
R10-210

GENERAL NOTES:

- 1) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 2) ALL DIMENSIONS ARE IN INCHES
- 3) INSERT D2596 WEB TO LOCATION SHOWN OFF AFT END OF SKIDTUBE AND BOND WEB INTO OUTER TUBE WITH NON-STRUCTURAL SIKAFLEX-241 ADHESIVE PER DART QSI 015 BEFORE BENDING. ENSURE HOLES LINE-UP.
- 4) BEND AS A SMOOTH RADIUS STARTING WITH A MAXIMUM CENTERLINE RADIUS OF 60 AND ENDING WITH A MINIMUM RADIUS OF 30. A MAXIMUM REDUCTION OF 0.200 IN DIAMETER IS ALLOWABLE IN THE BENT PORTION OF THE TUBE.
- 5) USE DART DRILL TEMPLATE TD2577-205 TO LOCATE AND DRILL $\varnothing 0.297$ HOLES FOR WEARSHOE INSERTS. INSTALL ALS7-1032-130 PER SECTION D-D (50 PLACES) AFTER FINISH. INSTALL AN3C4A BOLTS AND AN960C10L WASHERS WITH SIKAFLEX-241/-291.
- 6) WELDING TO BE DONE PER DART QSI 004.
- 7) FINISH:
SEE NOTES ON
PAGE 2 FOR D2580-041 AND
PAGE 3 FOR D2580-045
- 8) INSERT D2594-1 PLUG C/W D2594-3 O-RING IN HOLES MARKED 'P' (BOTH SIDES OF TUBE) AFTER FINISH (16 PLACES).

Copyright © 1996 by DART AEROSPACE LTD

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

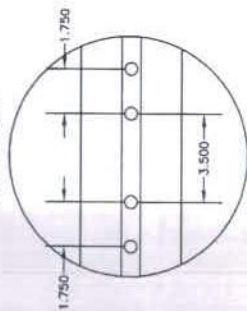
Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

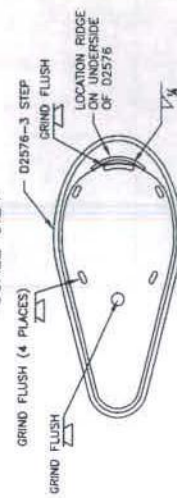
NOTE: Date & initial all entries

WLB 56134

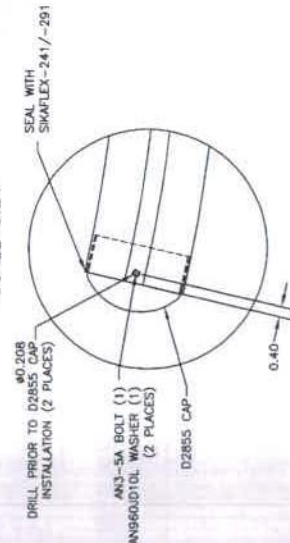
DETAIL A
SCALE 5:24



DETAIL B
SCALE 5:24



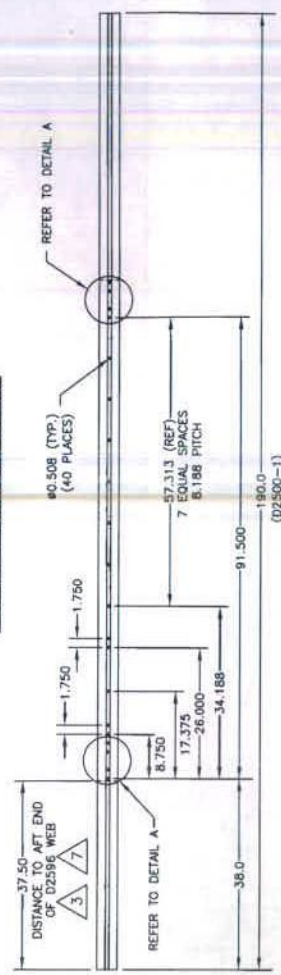
DETAIL C
SCALE 5:24



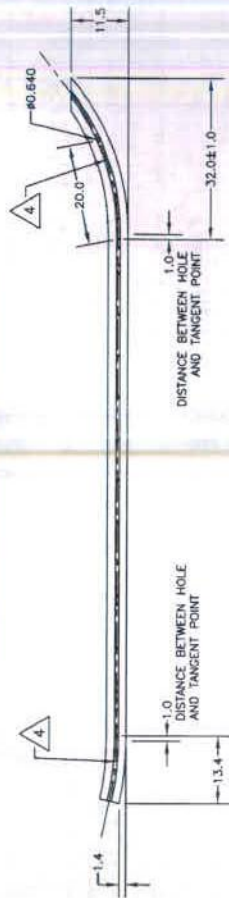
SECTION D-D
SCALE 5:24



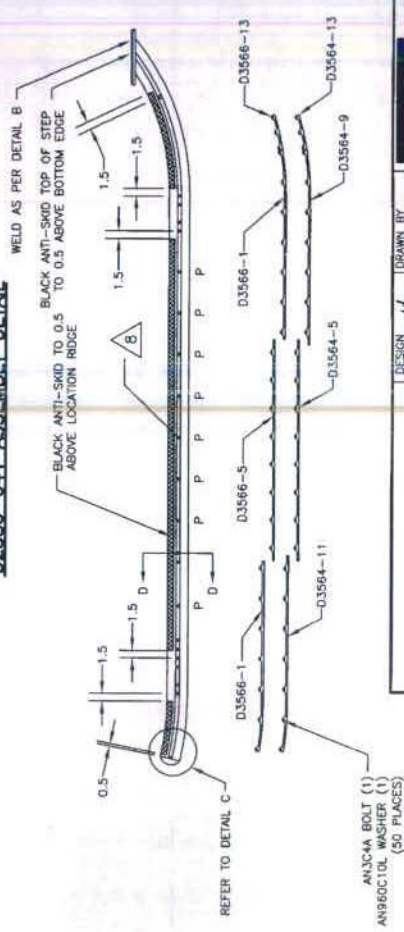
D2580-1 DRILLING DETAIL



D2580-1 BENDING AND CUTTING DETAIL



D2580-041 ASSEMBLY DETAIL



D2580-041 NOTES

- i) FINISH: ACID ETCH, ALODINE PER DART QSI 005 4.1 PRIOR TO INSERTING D2596 WEB POWDER COAT ASSEMBLY GLOSS WHITE (REF. 4.3.5.1) PER DART QSI 005 4.3 BLACK ANTI-SKID PAINT AS INDICATED PER DART QSI 005 4.4

COPYRIGHT © 1988 BY DART AEROSPACE LTD.		DESIGN	APPROVED	DATE	07.02.27
THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE REPRODUCED, COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.		CHECKED	APPROVED	TITLE	205 SKIDTUBE ASSEMBLY
DART AEROSPACE LTD. HAMILTON, ONTARIO, CANADA		REV. D	DRAWING NO.	SHEET 2 OF 3	SCALE
			D2580		1:24

RELEASED
07 Dec 88

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

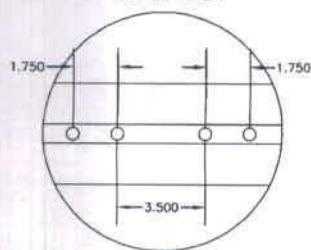
Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

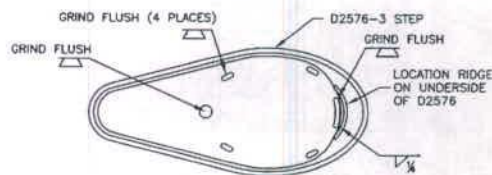
NOTE: Date & initial all entries

W/O 56134

DETAIL E
SCALE 5:24

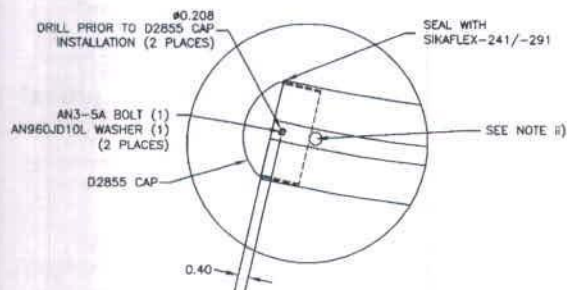


DETAIL F
SCALE 5:24

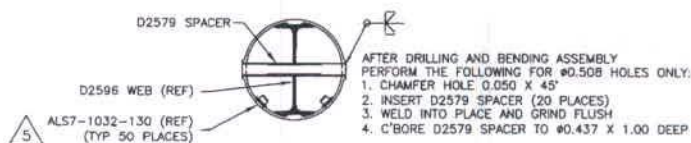


RELEASED
07.06.28

DETAIL G
SCALE 5:24

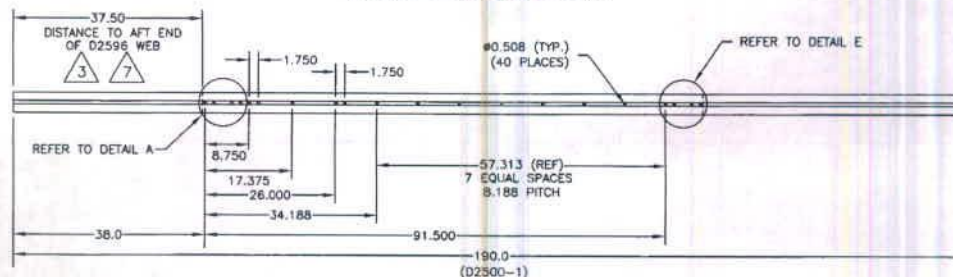


SECTION H-H
SCALE 5:24

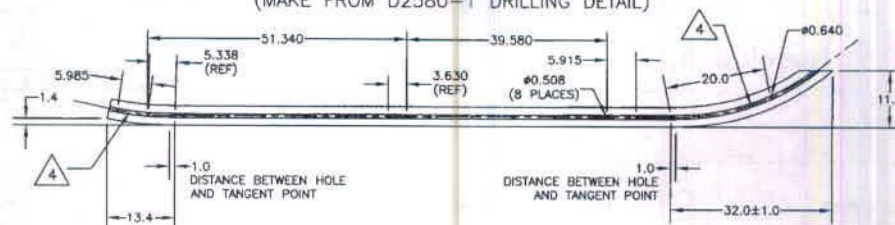


AFTER DRILLING AND BENDING ASSEMBLY PERFORM THE FOLLOWING FOR #0.508 HOLES ONLY:
1. CHAMFER HOLE 0.050 X 45°
2. INSERT D2579 SPACER (20 PLACES)
3. WELD INTO PLACE AND GRIND FLUSH
4. C'BORE D2579 SPACER TO #0.437 X 1.00 DEEP

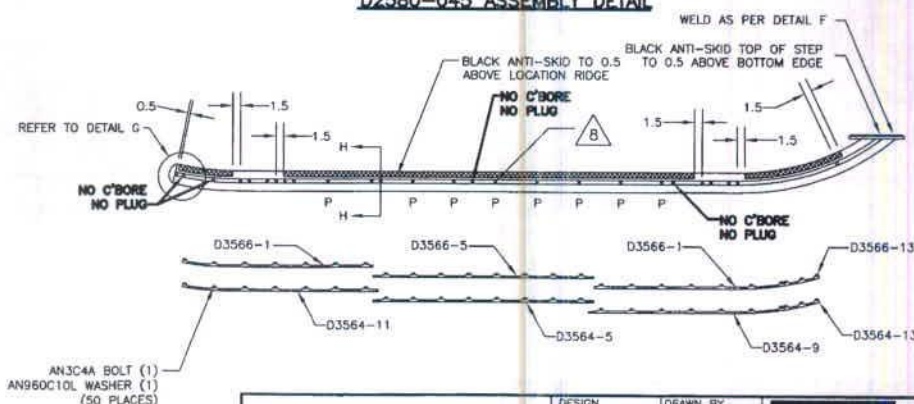
D2580-1 DRILLING DETAIL



D2580-5 BENDING AND CUTTING DETAIL
(MAKE FROM D2580-1 DRILLING DETAIL)



D2580-045 ASSEMBLY DETAIL



D2580-045 NOTES

- FINISH: ACID ETCH, ALODINE PER DART QSI 005 4.1 PRIOR TO INSERTING D2596 WEB POWDER COAT ENTIRE ASSEMBLY GREEN (REF. 4.3.5.8) PER DART QSI 005 4.3 BLACK ANTI-SKID PAINT AS INDICATED PER DART QSI 005 4.4
- IT IS ACCEPTABLE TO GRIND A RELIEF IN THE D2855 AFT CAP TO PREVENT INTERFERENCE WITH THE SPACER AT THIS LOCATION

COPYRIGHT © 1996 BY DART AEROSPACE LTD.

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.

DESIGN RH	DRAWN BY RH	DART	DART AEROSPACE LTD. HAMILTON, ONTARIO, CANADA
CHECKED H	APPROVED H	DRAWING NO. D2580	REV. 0 SHEET 3 OF 3
DATE 07.02.27	TITLE 205 SKIDTUBE ASSEMBLY	SCALE 1:24	

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

NO. 226

AWS D17.1.2001
QUALIFICATION TEST RECORD

Name: Barclay Elliott
Job number: 56184
Part number: D205 634.041
Description: 205 skid tube
Welding Process: Tig[☒] Mig[]
Base material: Aluminium
Current: AC[☒] DC[]

TEST REQUIREMENTS AND RESULTS

Visual: pass[☒] fail[]
Penetration: pass[☒] fail[]

UNACCEPTABLE

Cracks: pass[☒] fail[]
Undercut: pass[☒] fail[]
Pin holes: pass[☒] fail[]
Overlap (cold lap): pass[☒] fail[]
Porosity (surface): pass[☒] fail[]
Coloration: pass[☒] fail[]

Qualifier: [Signature] Date of Test Coupon 10-02-23

Welder: Barclay Elliott Date of Test Coupon 10-02-23

The above named individual is qualified in accordance with AWS D17.1.2001 to weld

